REMARKS

Currently claims 1-28 are pending in the application. Claim 10 has been amended. Accordingly, Claims 1-28 are pending in the application, and are presented for reconsideration and allowance.

This Amendment is responsive to the Final Office Action dated July 26, 2006, in which Claims 1-28 were rejected.

Claims 1-28, stand rejected under 35 USC 102(b) as being anticipated by JP Pub. No. (*Hiroyuki*). This rejection is respectfully traversed.

Claims 1, 10, 11, and 20 are the only independent claims in this case. Claim 1 is believed to be the broadest claim in this case and recites "wherein the short reduction layer is selected to have a thickness and resistivity sufficient to reduce the leakage current and the associated loss of emission efficiency due to shorting defects". Claim 10 has been amended to place the definition of the short reduction layer in the appropriate place. This claim is somewhat similar to claim 1, but for the location of the short reduction layer. Claims 11 and 20 each include ranges of resistivity.

Claim 1 is believed to be representative. Applicants believe that the features in the claim requiring the short reduction layer to be selected to have a thickness and resistivity sufficient to reduce the leakage current and loss of efficiency is clear and defininite and clearly supported by the specification. As will be discussed later, the materials in the cited *Hiroyuki* publication do not perform the claimed function.

The following shows that there is support in the specification for the short reduction layer definition. The term "having a thickness and <u>resistivity</u> sufficient to reduce the leakage current and the associated loss of emission efficiency due to shorting defects" has been well defined in the current specification and in the many examples. The thickness range was specified as 20 nm to 200 nm (line 14-16, p8). The various examples in the specification showed that for high resolution displays the through thickness resistivity range needs to be in the range of about 10 –1600 ohm-cm^2, and most preferably, 10 – 1000 ohm-cm^2. For OLED devices with large light emitting segments the usable range is much larger, from 10^{-7} to 10^3 ohm-cm^2. (P17 line 15) The bulk resistivity ρ of the materials required for the current invention can be easily calculated using the definition of through-thickness resistivity as ρ**t** (p7 line 23) where **t** is the

thickness of the short-reduction film. It can be seen from these ranges that the lowest resistivity of the materials that the current invention considered "having a thickness and resistivity sufficient to reduce the leakage current and the associated loss of emission efficiency due to shorting defects" is 5 X 10^{-3} ohm-cm, corresponding to a 200 nm short reduction film having a through-thickness resistivity of 10^{-7} ohm-cm^2. Any materials having resistivity lower than 5 X 10^{-3} ohm-cm will not function as an effective short reduction layer. In fact for most applications a much larger value of resistivity is preferred. The resistivity in the cited *Hiroyuki* publication, is too low to provide the short reduction functions required by the claims as will now be set forth.

In the detailed description (paragraph 24, lines 1-4) of Hiroyuki, he taught the use of IXO, a mixture of ITO and ZnO, as the preferred material for their invention. Although the electrical resistivity value was not specified by Hiroyuki, it has been well documented in the published literature (it is well known) that the IXO layer is used as a transparent conductive layer and its resistivity is 2 X 10^{-3} ohm-cm or lower. This material is too conductive to function as an effective short reduction layer in accordance with the teaching of the current invention. See *Chen, A Modified Transparent Conducting Oxide for Flat Panel Displays Only, Jpn. J. Appl. Phys. Vol. 40 (2001), page 1285, Table 1; Kitamura et al.; Improved Light Outcoupling In Organic Electroluminescent Devices With Random Dots*; *Japanese Journal of Applied Physics; Vol. 44, No. 1B, 2005, pp. 613, col. 2, lines 14-16. Yaglioglu et al. Crystallization Of Amorphous In_2O_3-10 wt% ZnO Thin Films Annealed In Air Applied Physics Letters 86, 261908 (2005), col. 1, 11-16.* Dr. Tyan, one of the co-inventors of the present invention, has carefully read these cited references and states "The short reduction layer of Hiroyuki does not inherently perform the function taught by the current invention. The short reduction layer of Hiroyuki does not fall within the claimed ranges of thickness, materials and resistivities."

Clearly, claim 1 and the other independent claims require the use of materials which were not suggested by *Hiroyuki*. *Hiroyuki* would not provide the claimed functions.

On page 4 (first paragraph) of the last office action the Examiner states that *Hiroyuki's* short reduction layer can be selected from a number of oxides. While *Hiroyuki* indeed teaches the use of IXO which is a mixture of

indium oxide and zinc oxide, it is well known in the art that the electrical resistivity of these materials can be made over a wide range by changing the composition and the preparation conditions. While a few, but not all, of these oxides or combination of oxides can be made to have low resistivity to serve as transparent conductive electrode layers, they can also be made with much higher resistivities. Only those with sufficiently high resistivities can function as the short reduction layer as per the present application. It should be understood that *Hiroyuki*'s so called short reduction layer is part of the transparent conductive electrode layer. Therefore, *Hiroyuki* is interested in having a very high conductivity. IXO is a trademark of Idemitsu Kosan Co.and the material is designed to function as a transparent conductive material with very low electrical resistivity. The reason *Hiroyuki* selected IXO was to have a very high conductivity material which can also function as a planarization material. Clearly, there is no teaching in *Hiroyuki* for using high resistivity materials as short reduction layers. Clearly, there is no teaching in Hiroyuki for the subject matter of claim 1. It is believed that claim 1 and the other independent claims define unobvious subject matter. The dependent claims should be allowed along with their base claim.

Applicants attorney would like to comment with respect to the third paragraph of the Final Office Action on page 4, that we can not find any place where it is indicated that the *Hiroyuki*'s short reduction layer is a mixture of the materials listed. Mixing one of the listed oxide material with an electrically insulating oxide, fluoride, nitride or sulfide material will produce a material too electrically resistive to function well for Hiroyuki. There is no motivation for Hiroyuki to do so. The remaining paragraphs are believed to have been addressed above.

A Supplemental Disclosure Statement is being filed along with this Response in order to include the references cited in this response.

It is believed that these changes now make the claims clear and definite and, if there are any problems with these changes, Applicants' attorney would appreciate a telephone call.

In view of the foregoing, it is believed none of the references, taken singly or in combination, disclose the claimed invention. Accordingly, this application is believed to be in condition for allowance, the notice of which is respectfully requested.

Respectfully submitted,

Attorney for Applicant(s)
Registration No. 22,363

Raymond L. Owens/djw
Rochester, NY 14650
Telephone: 585-477-4653
Facsimile: 585-477-4646

If the Examiner is unable to reach the Applicant(s) Attorney at the telephone number provided, the Examiner is requested to communicate with Eastman Kodak Company Patent Operations at (585) 477-4656.